



# COE-123-M-USB-090-IR-C | DATASHEET

OPTO ENGINEERING

Area scan camera IMX304, CMOS, Global shutter, 4096 x 3000, 12.3 MP, 3.45 µm pix, 1.1", Mono, 30.3 fps, USB 3.0, USB 3.0, C mount, AR filter



## KEY ADVANTAGES

### USB 3.0 connectivity

Easy connectivity to most new computers with 5Gbps bandwidth.

### USB3 Vision® protocol & GenICam® standard

Standard vision SDK platform for easy integration in existing software.

### Full GenICam® compliant: easy to integrate

GenICam® compliant SDK package provides more flexibility to Vision Systems.

### High quality sensors

New SONY Pregius CMOS Global shutter sensors provide high quality images to the camera.

### Frame Rate up to 210 fps

High frame rate ideal for high speed applications.

### Sensor Sizes from 1/2.5" to 1.1" to fit all application requirements

Find the exact sensor you need for your needs.

**The COE-U series** includes USB3 Vision® cameras equipped with the latest sensors, ranging from high speed VGA to the latest 1.1" 12MP SONY Pregius sensor, which deliver USB 3.0 connectivity with high frame rate.

## SPECIFICATIONS

### Sensor Specification

Megapixel		12.3
Resolution		4096 x 3000
Sensor format		1.1"
Sensor diagonal	(mm)	17.5
Pixel size	(µm)	3.45
Sensor model		IMX304
Sensor type		CMOS
Shutter		Global
Chroma		Mono

### Connectivity

Data connector		USB 3.0 Micro-B
Data interface		USB 3.0
I/O connector		6-pin Hirose
I/O interface		1x opto-isolated input 1x opto-isolated output 1x bi-directional non-isolated
Serial interface		no
Encoder interface		no
Power supply	(V)	9-24, USB 3.0
Max power consumption <sup>2</sup>	(W)	4.7

### Camera Specification

Filter		AR
Framerate <sup>1</sup>	(fps)	30.3
Exposure time		1 µs - 10 s
Dynamic range	(dB)	72.2
Gain range	(dB)	0-24
SNR	(dB)	40.2
Image buffer	(MB)	128
Pixel formats		Mono 8/10/ 10Packed/ 12/12Packed
Chunk data		yes
User sets		3
Timers/Counters		0/1
Synchronization		Free run, software trigger, hardware trigger

<sup>1</sup> Color-model's fps are calculated using RGB8 pixel format

<sup>2</sup> Measured at 12 VDC

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only. Data are reported by design, actual lens performance may vary due to manufacturing tolerances.

**Compliance**

Standards	USB3 Vision, GenICam	
Client software	OECS or other USB3 Vision software	
Operating systems	32/64-bit Windows XP/7/10	
Warranty	(years)	1

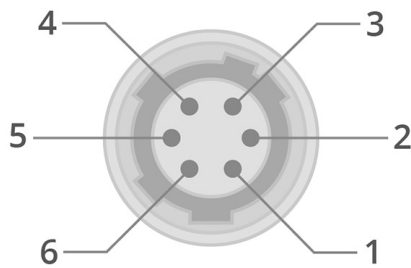
**Environment**

Operating temperature	(°C)	0-50
Storage temperature	(°C)	-30-+70
Operating relative humidity	(%)	20-80, non condensing
IP rating		IP30

**Mechanical Specifications**

Mount	C	
Dimensions <sup>2</sup>	(mm)	44 x 29 x 68
Clamping system	4x M3 threaded holes (on one side)	
Mass	(g)	100

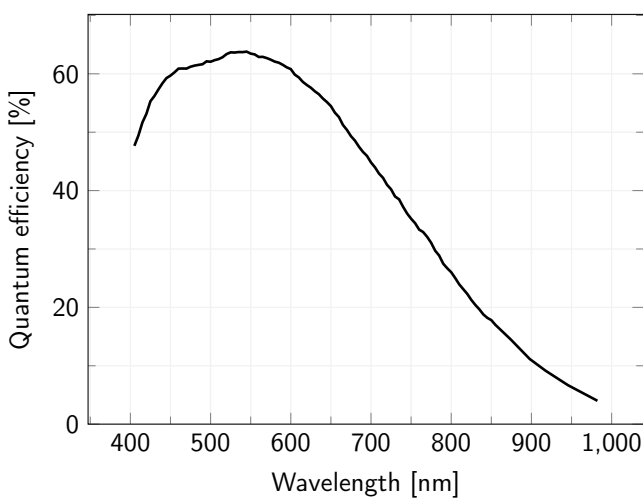
**HIROSE PINOUT**



Device side

Pin	Signal	I/O	Description
1	V+	Input	Power DC V+
2	Opt-Iso In	Input	Opto-isolated input
3	GPIO	I/O	Can be configured as input or output
4	Opt-Iso Out	Output	Opto-isolated output
5	I/O Ground	Input	Opto-isolated I/O grounding
6	GND	Input	Power and GPIO grounding

**SENSOR QUANTUM EFFICIENCY**



**RECOMMENDED ACCESSORIES**

Opto-Engineering® suggests the following accessories to power the camera:

- **CBUSB3001**, Passive USB 3.0 cable, industrial level, horizontal screw locking, 3 m
- **COE-6P-OPEN1-030-01**, HIROSE 6-pin/Open end cable, 3 meters

**COMPATIBLE PRODUCTS**

Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.

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